



An Extended Guide · No. 1879

Boundary Wire or Wire-Free? How Robot Mowers Find the Edge

Wire, satellites or cameras
— which suits your yard

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How does a robot mower know where to stop?

It's the question everyone asks first, and it's the right one. A robot mower that doesn't know your lawn's edge is just a loose blade in the yard. There are three different ways these machines find that edge, and which one you choose matters more than almost any other feature — especially here among the trees.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. I've spent 30+ years helping folks get comfortable with the gear in their homes and yards, patiently and in plain language. Think of this as me explaining the three methods at your kitchen table, no jargon, no sales pressure.

We'll keep it honest and general. I'll name a few real brands as examples so you know what you're looking at, but I won't quote prices or specs that change with every new model — for those, always check the current listing. What you'll leave with is a clear sense of which method fits your yard.

★ Not sure which method suits your lot?

If you'd like a hand matching the right guidance method to your yard, call or text me at (330) 200-8042. I don't sell mowers and earn no commission, so the advice is just honest advice — nothing to sell you.

The three methods, on one page

If you remember only these things, you'll know which direction to shop in.

- ❑ There are three ways a mower finds the edge: a buried boundary wire, wire-free satellite (RTK) positioning, and camera/AI vision.
- ❑ Buried wire is the proven, low-cost method — the work is laying the wire, and it doesn't care about trees or sky.
- ❑ Wire-free RTK uses satellites and a clear view of the sky; you draw the boundary on your phone instead of digging.
- ❑ RTK's catch: tall trees, buildings, and dense cover block the signal — a real problem on wooded Ohio lots.
- ❑ Camera/vision helps a mower see obstacles and sometimes map; it's often combined with RTK for position.
- ❑ Open, sunny yard? Wire-free is tempting. Shaded, wooded lot? A buried wire is often the safer bet.

✓ One rule to hold onto

Pick the method to match your sky, not the salesperson's favorite. The question 'how much open sky does my lawn have?' settles more of this decision than anything on the spec sheet.

The buried boundary wire

This is the original method, and it's still going strong because it simply works — rain or shine, sun or shade.

A thin wire is laid around the edge of your lawn — pegged on top of the grass at first, then slowly buried or grown over. The mower senses that wire and stays inside it, like an invisible fence for the blade. The parts are cheap and the idea is proven over many years.

The trade-off is the wire itself. Laying it around the whole lawn is the real work, and if you later want to change the shape of a zone, you have to move the wire. A cut wire — from an aerator, a shovel, or a critter — means hunting down the break and splicing it. But once it's down and settled, it's dependable, and it couldn't care less about tree cover.

✓ Wire shrugs off shade

Because a wired mower doesn't look to the sky for its position, heavy trees and deep shade don't bother it at all. On a wooded lot, that alone can make the older method the smarter choice.

Wire-free satellite (RTK) positioning

This is the method that got everyone excited: no wire to bury at all. Instead, the mower places itself by satellite and you draw the boundary on your phone.

It works with a small fixed antenna — a reference station that needs a clear view of the sky — which, together with the satellites overhead, lets the mower know where it is to roughly a couple of centimeters. You walk the edge once or draw it on a map in the app, and that becomes the boundary. No digging, and you can redraw zones from your phone whenever you like. The RTK in the name just refers to this high-accuracy satellite positioning.

The convenience is real, but so is the catch, and it's a big one around here. Satellite positioning needs to see the sky. Tall trees, a dense canopy, and even close buildings block the signal, so the mower loses its place, pauses, or wanders. Some systems add an antenna on a pole or a data signal over the internet to help — but the sky-view problem is the thing to reckon with.

! Wooded lots and RTK don't mix well

This is the single most common disappointment I see coming. If your Portage County lot is shaded by mature trees, a wire-free RTK mower may never hold a steady signal under the canopy. Stand in your lawn and look up before you buy — if you mostly see leaves, be very cautious.

Cameras, AI vision, and LiDAR

The newest method gives the mower eyes. Cameras — and on some models a spinning laser — help it see the world around it, not just know its coordinates.

A camera-and-vision system lets the mower spot and steer around obstacles — a hose, a toy, a snoozing pet — and on some models helps it understand its surroundings without leaning entirely on a clear sky. That spinning laser you may hear about is called LiDAR; it measures distances to build a picture of what's nearby.

In practice, vision is usually paired with satellite positioning rather than replacing it: the satellites tell the mower where it is, and the cameras handle what's in front of it. That combination can navigate better and dodge obstacles more gracefully — but it tends to sit at the pricier end, and a camera system still does best with reasonable light and a sensible layout.

✓ Vision is about obstacles, position is about the edge

Keep the two jobs straight. Cameras mainly help a mower avoid bumping things; the boundary and position usually still come from a wire or satellites. A great camera doesn't fix a lot with no sky view.

Comparing the three at a glance

Here's the honest head-to-head, so you can see where each method shines and where it struggles.

Method	Strength	Watch out for
Buried wire	Proven; ignores shade	Laying and repairing wire
Wire-free RTK	No digging; app zones	Needs clear sky
Camera/vision	Dodges obstacles	Pricier; wants light

Notice there's no single winner — each method trades one kind of work or limit for another. Wire trades convenience for shade-proof reliability. RTK trades digging for a dependence on open sky. Vision adds obstacle smarts at a higher price. The 'best' one is simply the one that matches your particular yard.

✓ **Many models blend methods**

Plenty of mowers combine these — satellite position plus camera vision, for instance. So don't think of it as three separate camps; think of it as three capabilities, and look at which blend a given model offers.

What installing each one really involves

The methods differ most on setup day. Knowing what each one asks of you helps you picture the real job ahead.

Setting up a wired mower

You — or an installer — lay the boundary wire around the lawn and any beds, peg it down, and set the dock. It's the most physical setup, often a day's work for a bigger yard, and the kind of job where many folks bring in help. Once it's down, it mostly disappears.

Setting up a wire-free mower

You place the antenna where it has a clear view of the sky, set the dock, and then walk or draw the boundary in the phone app. No digging, so it's quicker and tidier — as long as that antenna can see enough sky to work. The fiddly part moves from the shovel to the phone.

★ Digging is where I bring in a pro

Laying boundary wire can mean trenching along edges, and digging isn't my trade — so I'll help you line up a trustworthy local pro for that part, then handle the app, the zones, and the settings myself. Call (330) 200-8042.

A few real names, as examples only

It helps to put real names to the methods. These are examples to orient you — not recommendations, and not a complete list. Always compare current models, prices, and specs for yourself.

- **Husqvarna Automower** — a long-established line that offers both wired models and GPS-guided ones, so the same brand spans methods.
- **Worx Landroid** — another well-known name in the robot-mower world.
- **Segway Navimow** — wire-free, using satellite (RTK) positioning with camera-based obstacle avoidance; some all-wheel-drive models for slopes.
- **Mammotion** — the Luba and Yuka lines, using RTK with LiDAR and/or vision, and all-wheel drive aimed at steeper slopes.
- **EcoFlow Blade** — a wire-free entry pairing satellite positioning with vision.

! Names change; verify before you buy

Model lineups, features, and prices shift constantly, and new models arrive every season. Treat these only as a starting point, read current reviews, and confirm the exact capabilities of any model you're seriously considering before you spend.

Matching the method to your lot

Here's where it all comes together. The shape of your yard — especially how much sky it has — points you to the right method.

An open, sunny lot with plenty of clear sky is where wire-free RTK shines: skip the digging, draw your zones on the phone, and enjoy the convenience. Add camera vision if you've got obstacles to dodge or want the smoother navigation, and your budget allows.

A shaded, wooded lot is the opposite story. Under a heavy canopy, satellites struggle, and that's exactly where the old buried wire earns its keep — it doesn't need to see the sky, so it just works beneath the trees. The extra setup labor buys you reliability the fancy method can't deliver on your lot.

★ Let's read your sky together

The single best thing I can do before you buy is stand in your lawn and judge how much open sky it really has. That one look often settles the whole wire-versus-wire-free question. Call (330) 200-8042.

Two kinds of homes, two sets of needs

The right guidance method for a sunny open lawn is often the wrong one for a shaded, wooded lot. Picture which one is yours as you read.

An open, sunny lot

A lawn with lots of clear sky overhead and few mature trees is the natural home for the wire-free methods — all the convenience, none of the signal worry.

- Wire-free RTK works well with an unobstructed view of the sky.
- You draw and redraw zones on the phone — no wire to move.
- Camera vision adds smooth obstacle avoidance if your budget allows.
- Setup is quick and tidy, with no trenching.

A shaded, wooded lot

A lot under mature trees — common across Portage County — tells a different story, and the older method often wins here.

- Heavy canopy blocks satellites, so RTK may never hold a steady signal.
- A buried wire ignores the shade and just works beneath the trees.
- The trade is more setup labor up front for dependable running after.
- If you want a pro to lay the wire, I'll help you line one up.

★ Not sure which you've got?

Lots of yards are partly sunny, partly shaded, and that's where a careful look pays off. Tell me about your trees and I'll help you pick the method that actually works on your lot. Call (330) 200-8042.

What 'RTK' actually means

You'll see RTK plastered across the wire-free mowers, so let's demystify it in plain English — no engineering degree required.

Ordinary satellite positioning, like the GPS in your car, is only accurate to several feet — fine for finding a street, useless for keeping a mower out of the flower bed. RTK is a trick that sharpens that down to roughly a couple of centimeters by using a fixed reference point — that little antenna — to correct the satellite signal.

That accuracy is what lets a wire-free mower follow a boundary you drew on a phone without a physical wire. But it only works while both the antenna and the mower can see enough sky. Lose the sky to trees or buildings, and the clever correction has nothing to work with. That's the whole story behind the wooded-lot warning.

✓ Some setups add a data signal

A few systems skip the on-site antenna and get their correction over the internet (a network-RTK data signal) instead. It can simplify setup, but it still needs the mower itself to see the sky — so it doesn't rescue a deeply shaded lot.

Why this matters so much in our corner of Ohio

This guide leans hard on the sky-view question for a reason: it's the thing that trips up the most people around here.

Portage County is full of beautiful wooded, hilly lots — mature oaks and maples, deep shade, and canopy that closes in over the lawn by midsummer. All of that is lovely to live under and tough on a satellite signal. Folks see the slick wire-free mowers online, picture skipping the wire, and don't realize their trees will starve the thing of signal.

So the local lesson is simple: judge your sky honestly before you fall for the convenience. If you've got open sky, the wire-free world is yours. If you've got a leafy ceiling, respect it — a buried wire under the trees will serve you far better than a frustrated satellite mower that keeps losing its place.

★ I know what our trees do to a signal

I've seen wire-free mowers struggle under heavy canopy on local lots. If you want advice grounded in how these actually behave under Portage County trees, that's exactly what I'm here for. Call (330) 200-8042.

How each method handles zones and passages

Most real yards are more than one patch of grass. How a method copes with separate areas and skinny passages is worth a thought.

With a wired mower, each zone needs its own loop of wire, and a narrow passage needs a wire run along it to guide the mower through. It works, but every change means handling wire again.

With a wire-free mower, you draw each zone in the app and can tweak them anytime — a genuine convenience if your layout changes. But a skinny passage between zones still asks a lot of the navigation, and if that passage is also shaded, the signal trouble piles on top of the layout trouble. Narrow, tree-lined side yards are a classic pinch point.

✓ Walk the pinch points

Before you buy, picture the mower threading the tightest, most shaded passage on your lot. If that spot worries you, it'll worry the mower too — and it's worth raising with the seller or with me first.

Living with each method over the years

A mower is a years-long companion, so it's fair to ask what can go wrong down the road with each method.

A wired system's classic failure is a broken wire — nicked by an aerator, chewed by a critter, or cut while digging. The mower stops working until the break is found and spliced, which can mean walking the whole loop with a tester. Annoying, but usually fixable without replacing the mower.

A wire-free system has no wire to break, which is a real plus, but it leans on the antenna, the app, and a steady signal. A moved antenna, a software hiccup, or a tree that's grown thicker since you bought it can all degrade things over time. Camera and laser parts are more sophisticated bits that can need service too. More cleverness means more that can need attention.

✓ Favor parts and support you can get

Whichever method you pick, choose an established brand whose replacement parts and support you can actually reach a few years from now. That matters more to long-term happiness than any single feature.

An honest word about cost

Prices move constantly, so I won't quote figures that'll be stale by the time you read this. But the methods do sit at different price points, and that's worth knowing.

As a rule, basic wired models are the most affordable in parts, though they carry the cost — in time or an installer's fee — of laying the wire. Wire-free RTK models cost more, and the premium camera, LiDAR, and all-wheel-drive machines cost substantially more again. Always check the current listing for the real numbers.

Spend where your yard needs it, not where the marketing points. A shaded lot is better served by an affordable wired mower that actually works than by a premium wire-free one that keeps losing signal. The right method for your lot is almost always the better value, whatever it costs.

★ Let's make the money count

Send me the models you're weighing and tell me about your yard. I'll give you my honest read on which method fits and whether the price makes sense for your lot. Call (330) 200-8042.

A word on blades and safety

However it finds the edge, a robot mower has spinning blades, and a little respect for them keeps everyone safe.

Most robot mowers use small blades and stop them the instant the machine is lifted or tipped, which makes them far safer than a big rotary mower. Still, they're blades. Keep hands and feet clear, keep children and pets away while it runs, and never reach under a mower that's powered on.

The guidance method matters for safety too: a mower that loses its place can stray where you don't want it. A reliable edge — wire or good signal — isn't just about a tidy cut; it's about the machine staying where it belongs, away from the driveway, the pond, and the road.

! Clear the lawn before it runs

Pick up sticks, stones, and toys before each run. A fist-sized stick can damage the blades or be thrown, and debris is one more thing that can confuse a camera or strand the mower. Our mower-safety guide covers this in full.

Setting expectations you'll be happy with

Each method has its own little quirks. Knowing them in advance is the difference between a happy owner and a frustrated one.

Expect a wired mower to be dependable and shade-proof, but to need the wire laid and occasionally repaired. Expect a wire-free RTK mower to be tidy and app-friendly, but only as good as its view of the sky. Expect a camera-and-vision mower to dodge obstacles nicely, at a higher price and with a few more sophisticated parts to look after.

What not to expect from any of them: perfect edges along beds and walks (you'll still trim those), flawless running through deep shade on satellites, or a cut-rate off-brand matching an established one on reliability. Expect the right method for your lot to simply work, and it will.

✓ The method is the foundation

Everything else about a robot mower sits on top of how well it finds the edge. Get the method right for your yard and the rest tends to fall into place; get it wrong and no other feature can save it.

Questions to ask before you buy

Whether you're talking to a salesperson or to me, these questions get you to the right method for your lot.

Q: How much open sky does my lawn really have?

This settles most of it. Lots of clear sky favors wire-free; a heavy canopy favors a buried wire. Look up and answer honestly before anything else.

Q: Does this model use wire, satellites, cameras, or a blend?

Get a straight answer. Many models combine methods, so ask exactly how it finds the boundary and how it avoids obstacles.

Q: How does it handle my trees, zones, and narrow passages?

Describe your real layout. Make sure the method and model can cope with your shade and your pinch points, not just an open test lawn.

Q: How do I fix it if something goes wrong?

Ask about repairing a cut wire, moving the antenna, or servicing the camera parts — and whether parts and support will be there in a few years.

✓ There's no silly question

If a seller brushes off the sky-view question or can't say plainly how a mower finds the edge, that's a reason to pause, not to buy. You deserve a clear answer to a plain question.

Common mistakes people make

A few avoidable slip-ups cause most of the regret with guidance methods. Now you'll see them coming.

- **Buying wire-free for a wooded lot** — the number-one mistake around here; the signal just can't hold under the canopy.
- **Assuming a camera replaces the wire** — vision mainly dodges obstacles; the boundary still comes from wire or satellites.
- **Underrating the wire-laying job** — then being surprised by a day's work or an installer's fee.
- **Ignoring the narrow, shaded passage** — the one pinch point that stumps the navigation and the signal at once.
- **Chasing the fanciest method** — paying premium for RTK and vision a simple wired mower would have beaten on your particular lot.

! The sky mistake is the costly one

Of all of these, buying a wire-free mower for a lot without the sky to support it is the one that leads to the most expensive disappointment. Check your sky first, every time.

Putting it all together

Let's gather it into one plain recommendation you can act on.

If your lawn has plenty of open sky and you'd love to skip the digging, lean toward a wire-free RTK mower, and add camera vision if your budget and your obstacles call for it. If your lot is shaded by mature trees, lean toward a buried-wire mower that won't care about the canopy — the extra setup buys you reliability the satellites can't deliver there.

And if you're somewhere in between — some sun, some shade, a tricky passage or two — that's exactly the situation worth a careful look before you spend. The right method is out there for your yard; the trick is matching it honestly rather than buying the shiniest option. That's the call I'm always glad to help you make.

★ Let's match the method to your yard

Choosing between wire and wire-free is exactly the kind of thing I love to help with — on your lawn, in plain English, with nothing to sell you. Call or text me at (330) 200-8042.

Common Questions

The questions I hear most about how robot mowers find the edge, answered plainly.

Q: Is a buried wire old-fashioned, or still worth it?

Still very much worth it. It's proven, affordable in parts, and it ignores shade entirely — which makes it the smart pick for many wooded lots, even today.

Q: What is RTK, and why do the trees matter?

RTK is high-accuracy satellite positioning, good to about a couple of centimeters. It needs a clear view of the sky, so tall trees, dense canopy, and close buildings block it.

Q: Can a camera mower work without a wire or satellites?

Cameras mainly help a mower see and dodge obstacles; the boundary and position usually still come from a wire or satellites. Vision is typically a partner to those, not a replacement.

Q: I have a shaded, wooded lot — what should I get?

Lean toward a buried-wire mower. Under a heavy canopy, satellite positioning struggles, while a wire doesn't care about the shade and simply works beneath the trees.

Q: Which brands use which method?

As examples only: Husqvarna Automower offers wired and GPS models; Segway Navimow and EcoFlow Blade are wire-free with vision; Mammotion's Luba and Yuka use RTK with LiDAR and/or vision. Compare current models before buying.

★ Still deciding wire or wire-free?

This is exactly what I'm here for. Call or text me at (330) 200-8042 and I'll help you match the right guidance method to your yard before you spend a dime.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made choosing how your robot mower finds the edge feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. I'll help you choose the right machine, get it set up and mapped, connect it to your Wi-Fi and your phone, and show you how to run it. A first visit is a flat \$99, and for the parts that don't need me on-site — app settings, schedules, a quick question — I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. For anything that calls for a ladder, wiring, or digging, I'll help you line up a trustworthy local pro rather than risk it.

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Three Ways to Find the Edge

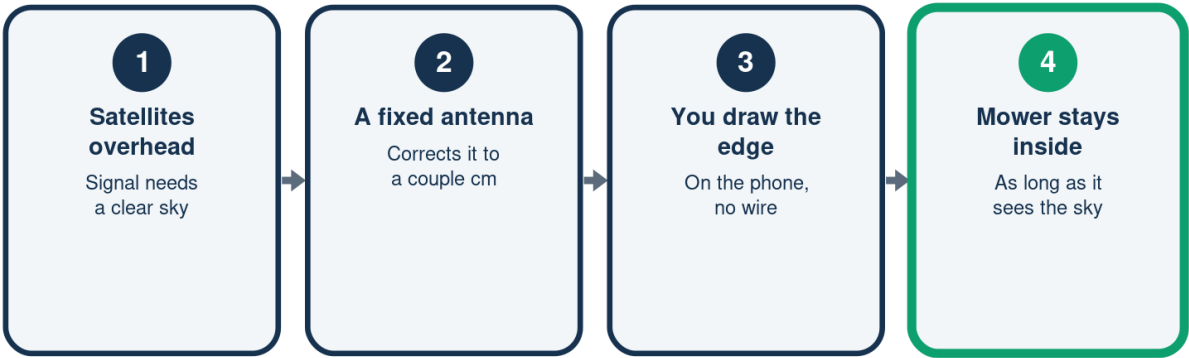
Each trades one kind of work or limit for another

	Strength	Watch out for
Buried wire	Ignores shade	Laying/repairs
Wire-free RTK	No digging	Needs clear sky
Camera/vision	Dodges stuff	Pricier; light
Blends	Mix of these	Check the mix

No single winner -- the best is the one that fits your yard.

How Wire-Free RTK Works

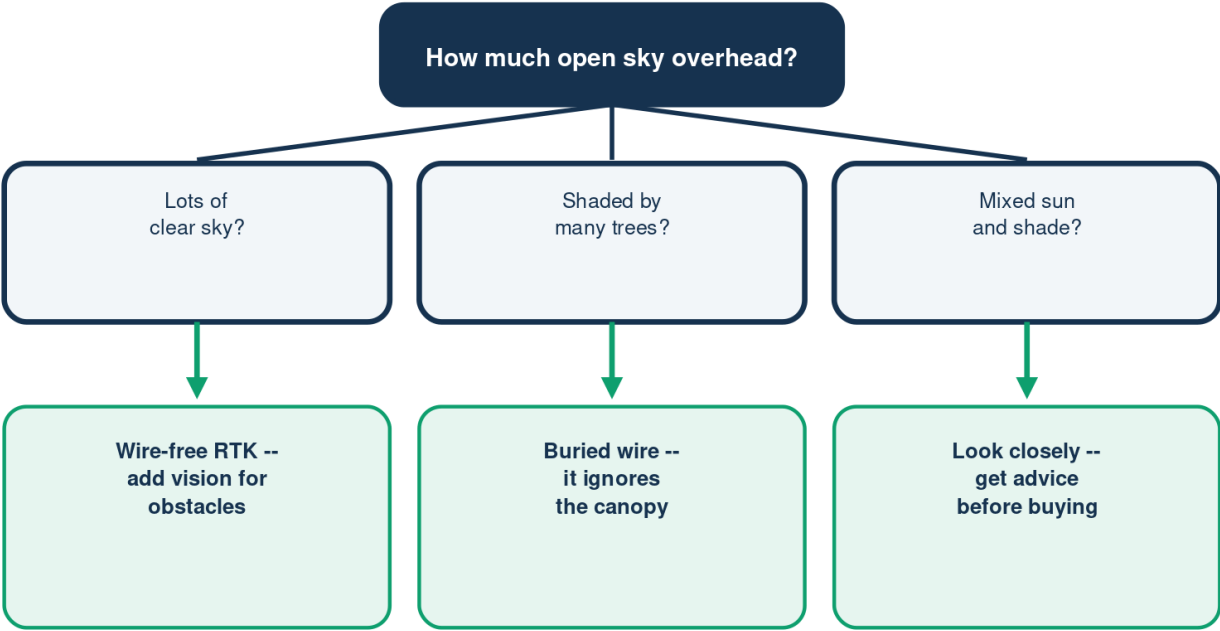
Satellites plus a fixed antenna place the mower



Lose the sky to trees and the whole chain breaks down.

Which Method Fits Your Lot?

Your sky and your digging decide most of it



Buying wire-free for a wooded lot is the costliest common mistake.

Illustration - a schematic, not to scale. Your setup may differ.

What Setup Involves

The methods differ most on installation day

	Method	Setup day
Buried wire	Lay and peg wire	A day's work
Wire-free RTK	Place antenna	Draw on phone
Camera/vision	Set, then it sees	Often with RTK

Digging? Bill lines up a pro, then handles the app and zones.



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A Note From Bill

A quick note from Bill.

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